Knowledge and Psychomotor Objectives

12 Lead Interpretation with Fibrinolytics Endorsement

Curriculum Objectives for the
EMT-Paramedic 12 Lead Interpretation with Fibrinolytics Endorsement

Montana Department of Labor and Industry
Board of Medical Examiners

The purpose of the 12 Lead Interpretation with Fibrinolytics Endorsement for EMT-Paramedic is to provide the EMT-Paramedic with the knowledge and skills to effectively and safely obtain and interrupt a 12 lead and administer fibrinolytics under the oversight of a physician.

Patient care should always be based on patient presentation and the Montana Prehospital Treatment Protocols and or the Montana Inter-Facility Transport Protocols. Specific Board approved protocols exist for the 12 Lead Interpretation with Fibrinolytics endorsed EMT-Paramedic and can be downloaded from the web site (www.emt.mt.gov)

EMT-P ENDORSEMENT: 12 Lead Interpretation with Fibrinolytics

FORWARD

The Montana Board of Medical Examiners (BOME) developed the EMT endorsement process to provide the local EMS medical director the ability to expand the individual EMT scope of practice. The BOME has defined the "maximum allowable" skills for each endorsement and established statewide protocols. The endorsement process consists of education and verification.

The local EMS medical director is responsible for verifying an EMT's knowledge and skills for a particular endorsement. This can be accomplished via a training program; or the medical director may take into account an EMT's previous education, skill ability or other personal knowledge to determine whether an EMT meets the endorsement knowledge and skill requirements. The local medical director is responsible for the quality of all endorsement training via direct participation and/or oversight.

The medical director cannot exceed the scope of the endorsement, but may set limits on the ambulance service or the individual EMT. As an example, the medical director might wish the local ambulance service or an individual EMT to utilize pulse oximetry but not cardiac monitoring.

The endorsement material that follows provides the knowledge and psychomotor objectives at the specific endorsement level. Some endorsements may also include sample lesson plans for use in presenting the material. The endorsements (specifically at the EMT-Intermediate and EMT-Paramedic levels) may be non-specific in certain areas (such as specific medications or routes of administration) as the Board does not intend to "practice medicine". The medical director "practices medicine" and has the ability to determine the specific's concerning the endorsement. The Board approved protocols define the extent of the local medical directors flexibility: "…*The Board authorizes the service medical director to use the Board approved protocols in their entirety or may determine to limit individual EMT providers function / practice where appropriate and in accordance with provider's abilities. However, the service medical director may not significantly alter (change the performance expectations of the EMT) or expand approved Board protocols without first seeking Board of Medical Examiners approval.*" If the medical director wishes to request the Board to "significantly alter" the protocol there is a process identified in the rules for that to occur.

The endorsement levels at the EMT-Paramedic level are slightly different then at the other levels in that all of the endorsement levels are subsets of the Critical Care endorsement. Therefore if a Critical Care endorsement is granted to an EMT-P, they have completed all of the other endorsements.

This does not work in reverse though, if an EMT-P has all of the endorsement levels but Critical Care, Critical Care is not granted by default.

The endorsement process requires that the medical director complete a standardized "verification form" (certificate of completion) documenting that an individual EMT has the knowledge and skills identified at the specific endorsement level. The individual EMT then submits an application to the Board to establish the endorsement on their license. The medical director then has the option of granting permission to the individual EMT to perform the endorsement to the extent defined by the medical director. All forms and endorsement materials can be obtained from the web site; www.emt.mt.gov. Any questions or concerns can be addressed to Ken Threet at (406) 841-2359 or kthreet@mt.gov.

Knowledge and Psychomotor Objectives

MEDICOLEGAL ASPECTS

Apply the essential legal principles necessary to the practice of emergency medicine to the job a paramedic.
Recognize and discuss the legal risks and liabilities with conducting 12 lead interpretations.
Apply basic risk management principles.
Discuss the fundamental elements of litigation, hearings and peer-review proceedings.
Understand EMTALA and the implications for EMS
Appropriately document the event (12 lead interpretations)
Identify areas of potential liability
State methods to minimize risk

INFECTION CONTROL & COMMUNICABLE DISEASES

Describe proper infection control procedures
Identify the mode of transmission and precautions to follow when treating a patient with the following infectious diseases:

- HIV
- Hepatitis
- Multiple-Antibiotic Resistant Bacteria
- Tuberculosis
- Meningitis

12-LEAD ELECTROCARDIOLOGY

Describe the difference between monitoring and assessing a patient using an ECG machine
Demonstrate proper lead placement for a 12 Lead ECG

Using a simple chart and leads I, II and III, determine the electrical axis and the presence of fascicular blocks (hemiblocks)
Using lead V_1 (MCL_1), determine bundle branch blocks
Describe the clinical significance of hemiblocks and bundle branch blocks in the cardiac patient
Describe the strategy for identifying V-Tach in wide complex tachycardia
On a 12-Lead or Multi-Lead ECG, identify ST and T wave changes relative to myocardial ischemia, injury and infarction.
Describe a systematic "assessment" of a 12-Lead ECG
Describe possible complications of various infarct locations

IMPLANTABLE CARDIOVERTER DEFIBRILLATORS

Discuss the incidence of sudden cardiac death and the population at risk
Describe how and Implantable Cardioverter Defibrillator (ICD) works, its components and its functions
Identify the potential complications associated with the ICD and location of placement in the chest wall
Describe the procedure for deactivating an ICD with a magnet

CARDIAC PACEMAKERS

Understand the basic concepts underlying cardiac pacemaker technology
Understand the current code system used for cardiac pacing
Understand and troubleshoot the potential rhythms that indicate forms of pacemaker malfunctions

THROMBOLYTICS

Identify the absolute and relative contraindications to thrombolytic therapy
Compare the pharmacology, pharmacokinetics, dosing and adverse effects of TPA, streptokinase and APSAC
Discuss the benefits of thrombolytic therapy

CASE STUDIES

Integrate topics learned with case scenarios